MARSHALL STAR

Marshall Space Flight Center **June 22, 2000**

"We bring people to space — We bring space to people"

NASA, Marshall Center honor 388 employees

NASA and the Marshall Center have recognized the achievements and contributions to America's space program of 388 Marshall Center civil service and contractor employees.

For Marshall's annual Honor Awards ceremony Tuesday, Joseph H. Rothenberg, associate administrator for space flight at NASA Headquarters, joined Center Director Art Stephenson to honor the employees for special accomplishments during 1999.

- *See photos on pages 3-11*
- *Center Director's comments on page 2*

Among the awards presented were 11 Outstanding Leadership Medals, two Exceptional Scientific Achievement Medals, two Patent Awards, 20 Software of the Year Awards, two Invention of the Year Awards, 15 Research and Technology Awards, and six Technology Transfer Awards.

Also presented were 39 Exceptional Service Medals recognizing significant, sustained performance characterized by unusual initiative or creativity; 45 Exceptional Achievement Medals recognizing significant, specific contributions to NASA's mission; 60 Public Service Medals awarded to contractors for exceptional contributions to NASA's mission; 32 NASA Group Achievement Awards; 41 Certificates of Appreciation, 72 Director's Commendation Certificates; 38 Marshall Certificates of Appreciation; and 16 Marshall Group Achievement Awards.

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Stephenson, left, and Rothenberg, right, congratulate Benjamin Chu of Computer Sciences Corp. on his Public Service Medal.

Marshall-led team designing new instrument to detect the most powerful blasts in the universe

by Tracy McMahan

Astronomers said a fond farewell to NASA's Compton Gamma Ray Observatory earlier this month. The Compton Observatory was instrumental in proving gamma-ray bursts come from the most distant reaches of the cosmos and are the most powerful explosions in the universe.

A team led by Marshall scientists is developing a new burst monitor to fly on Compton's successor — the Gamma Ray Large Area Space Telescope, or GLAST — planned for launch in 2005.

The GLAST Burst Monitor — working with GLAST's main instrument, the Large Area Telescope — will provide the broadest energy coverage ever available on a single spacecraft for gamma-ray studies. Together, the two instruments will observe gamma rays with the lowest energies to those with the highest energies.

"We want to discover how these bursts light up the universe with such a tremendous amount of energy," said Dr. Charles Meegan, a Marshall Center astrophysicist and the principal investigator for the project. "We want to determine the nature of gamma-ray bursts — still one of the greatest mysteries of astrophysics."

To design the new instrument, Marshall Center scientists will draw on more than two decades of experience building and operating the Burst and Transient Source Experiment — also known as BATSE — one of four instruments on the Compton Observatory. During its productive nine-year life, BATSE observed more than 2,500 gamma-ray bursts, but astronomers are still puzzled about the nature of these illusive objects.

"The total amount of energy emitted by all the stars in our galaxy is not as much energy as that released by one gamma-ray burst in a few seconds," Meegan said. "In 10 seconds, a gamma-ray burst can discharge thousands of times more energy than our Sun will ever give off in its entire lifetime. Scientists have had trouble figuring out just what could cause such violent blasts coming from all parts of the universe."

Meegan, who enjoys working all types of puzzles, is eager to lead a team to build an instrument capable of solving the

*See **GLAST** on page 15*

"A Safe Tool Is the Right Tool"
— Safety slogan submitted by
Jerome "Bo" Pitt, ED26

Center director praises Marshall's team effort

Tuesday was an important day at the Marshall Center. Among a multitude of activities in 1999, the Marshall Center committed itself to a set of fundamental values. We selected these values as guiding principles in all that we do. At the top of that list, we placed the importance of our people.

On Tuesday we honored distinguished members of the Marshall team. They illustrate the fantastic things that happen when an organization places its highest value on its people. In addition, they represent every element of Marshall's values — a commitment to our customers, the pursuit of excellence, the use of teamwork and the promotion of innovation and creativity. Our honorees embody these values. They were the people behind our mission success in 1999.

I know family members and co-workers attending this ceremony joined me in congratulating the award recipients. They are always ready to persevere in the face of change and they remain committed to safety. They are focused on Marshall's role as NASA's Center of Excellence for Space Propulsion and on its key assignments in Space Transportation Systems Development, Microgravity, Space Optics Manufacturing Technology and Space Science.

For example, many of our award recipients focused on future space transportation systems including the manufacture of six MC-1 engines. In addition, our recipients enhanced the Shuttle's safety and reliability block through upgrades in Marshall's propulsion system elements.

Many in the group helped Marshall mark progress in microgravity by focusing on granular materials in a weightless environment, space-based fluid physics and gene array analysis. The Space Product Development Program accomplishments included the establishment of a virtual center for metal casting processes, the growth of human insulin crystals larger than any ever grown on Earth and a successful gene transfer experiment which could improve U.S. soybean production.

In July 1999, we celebrated the 30th Anniversary of Apollo 11. However, 1999 also afforded us another opportunity to celebrate after NASA launched the Marshall-developed Chandra X-ray Observatory. We already know that time and time again, Chandra has exceeded what astronomers expected it to accomplish on orbit.

We also recognized our honorees for marking new milestones in testing the International Space Station elements and in the analysis of on-orbit environmental conditions. In addition, the first multi-purpose logistics module (Leonardo) was delivered from Marshall to Kennedy Space Center. The module is scheduled to fly in 2001. During the fiscal year, Marshall also developed the Space Station Human Research Facility and conducted on-line testing of the Space Station Payload Operations and Integration Center.

At the same time that many of our honorees were focused on preparing the International Space Station for on-orbit scientific research, others continued Earth-based research at Marshall's Global Hydrology and Climate Center. Numerous successes were documented, including the publication of a global lightning database.

Earlier, I referred to our honorees' willingness to persevere in the face of change. They certainly passed that test in 1999 when the Center reorganized in a very brief time in order for us to focus on Marshall's roles and missions within the larger context of NASA's strategic vision.

The doors to the 21st century have swung open. The engineering and scientific contributions that our recipients brought to the threshold in 1999 will powerfully and positively impact humankind and space exploration far into the 21st century and far beyond the awards we grant them.

— Art Stephenson
Marshall Center director

Photos by Doug Staffer, NASA/Marshall Space Flight Center

Above, Jones, left, explains his work to Harris Jr. Academy students participating in a job shadowing program. At right, Clark, left, shows materials to students Dan Tanner, center, and Rodney Coats, right.

First-hand look

Students from Harris Jr. Academy and Huntsville High School get a first-hand look at various materials being put to use in labs at Marshall. The visit, with engineers Dion Jones and Johnnie Clark, was part of a job shadowing day sponsored by the Equal Opportunity Office and Future Assets, Student Talent Inc.

Annual Honor Day Awards

Outstanding Leadership Medal

The Outstanding Leadership Medal is awarded to individuals for notably outstanding leadership that has a pronounced effect on NASA's technical or administrative programs. Recipients include Sandra C. Coleman, Sheila S. Cloud, Pamela H. Cucarola, Gerald F. Flanagan, John T. Humphreys (not pictured), Robert Hughes, Robert J. Jackson, Anthony R. Lavoie, John M. McDougal, Harvey D. Tananbaum (not pictured), Lawrence D. Thomas and Lewis Wooten.

Coleman, RS01

Cloud, AD01

Cucarola, RS30

Flanagan, VS10

Hughes, TD12

Jackson, SD40

Lavoie, FD03

McDougal, SD42

Thomas, VS10

Wooten, FD34

Exceptional Scientific Achievement Medal

The Exceptional Scientific Achievement Medal was awarded to Hugh J. Christian Jr. and Mona J. Hagyard.

Christian, SD60

Hagyard, SD50

*See **Awards** on page 4*

Annual Honor Day Awards

Stephenson, TD12

Exceptional Engineering Achievement Medal

The Exceptional Engineering Achievement Medal was awarded to David D. Stephenson.

Baggett, TD15

Bean, ED24

Exceptional Service Medal

NASA's Exceptional Service Medal was awarded to Randy M. Baggett; Alan J. Bean; Marceia A. Clark-Ingram; Sam V. Digesu; Barbara R. Facemire; Peggy K. Geddings; James E. Hatfield Jr.; William K. Hefner (not pictured); James F. Hester Jr.; William R. Hicks; Kurt V. Jackson; Carl P. Jones (not pictured); Rachel R. Kamenetzky; Jeffery Kolodziejczak; H. Gray Marsee; Matthew B. McCollum; Richard W. McClearen; Marena M. McClure; Daniel P. Mellen; Larry D. Mullins; Stephen L. O'Dell; Jay F. Onken; James W. Owen; Steven C. Purinton; Max E. Rosenthal; Charles A. Shariett III; Kenneth A. Smith; Allyn F. Tennant Jr.; Erskine S. Terry; Huu P. Trinh; Gregory J. Walker; Tereasa H. Washington; Jeffery W. Wesley (not pictured); Mark E. West; Gregory M. Wright; and James E. Wyckoff.

Clark-Ingram, ED36

Digesu, FD32

Facemire, SD47

Geddings, TD02

Hatfield, QS30

Hefner, FD11

Hester, retired

Hicks, SD10

Jackson, ED12

*See **Awards** on page 5*

Annual Honor Day Awards

Jones, retired

Kamenetzky, ED31

Kolodziejczak, SD50

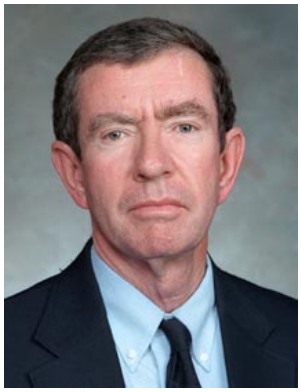
Marsee, LS01

McCollum, ED44

McClearen, PS40

McClure, PS10

Mellen, ED22



Mullins, TD54

O'Dell, SD50

Onken, FD32

*See **Awards** on page 6*

Marshall Patent Award

R. Jeffrey Ding and William T. Powers received the Marshall Patent Award recognizing NASA employees winning patents during 1999. Ding's patent was for an auto-adjustable pin tool for friction stir welding and Powers' was for the cryogenic high-pressure sensor module.

Invention of the Year

Marshall's Invention of the Year Award recognizes employees with patented inventions that have realized their commercial potential or have contributed significantly to specific NASA programs. Recipients were Richard W. Dabney and Richard T. Howard for the closed-loop autonomous docking system.

Technology Transfer Award

Marshall's Technology Transfer Award recognizes excellence in applying NASA technology to commercial uses. Recipients included Melvin A. Bryant III, Jeffrey R. Ding, David H. Hathaway, Emory E. Lynn, Paul J. Meyer and the Research Triangle Institute in Research Triangle Park, N.C.

Annual Honor Day Awards

Research and Technology Award

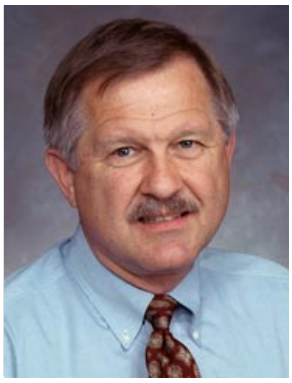
Marshall's Research and Technology Award recognizes notable achievements in current technology development. Recipients were members of the Chandra X-ray Observatory team and included Melvin R. Carruth Jr., Thomas K. Delay, Brandon S. Dewberry, David L. Edwards, Harold P. Gerrish Jr., Lisa W. Griffin, Marshall K. Joy, Anthony R. Kelley, Andrew S. Keys, Jonathan A. Lee, Jeffrey L. Lindner, Jody L. Minor, Paul K. Tucker, Jason A. Vaughn and Martin Weisskopf, chief project scientist for Chandra.

Owen, ED20

Purinton, TD11

Rosenthal, retired

Shariett, FD23



Smith, FD36

Tennant, SD50

Terry, FD03

Trinh, TD61

Walker, CD20

Washington, CD01

West, TD55

Wright, FD03

Wyckoff, AD21

*See **Awards** on page 7*

Exceptional Achievement Medal

NASA's Exceptional Achievement Medal was presented to Steve L. Allums; Joel M. Anderson; William T. Anglin; Robert T. Bechtel; Albert F. Bellingrath III; Eugene H. Berry; Christopher H. Calfee; Melvin R. Carruth Jr.; David C. Cramblit; Robert T. Crumbley; Nesbitt P. Cumings (not pictured); Ramona O. Cummings; Teddy M. Edge; Ronald F. Elsner; Frank R. Fogle; Ernest M. Graham; Jerry B. Graham; John H. Harlow Jr. (not pictured); Danny R. Hightower; Lawrence D. Hill; Robert J. Hoffman; David W. Hood; Patrick L. Hunt; Thomas M. Irby; Michael R. Ise; Lorna G. Jackson; Robert T. Jernigan; William D. Lightsey; Steven L. Luna; Michael A. Martin; Malissa B. Meadows (not pictured); Angelo M. Nowlin; David E. Price III (not pictured); Joseph L. Randolph (not pictured); Tom Rankin; Michelle P. Schneider; Johnny F. Stephenson Jr.; Michael L. Sweigart; Drayton H. Talley; William E. Taylor; Jason A. Vaughn; L.D. Wallace; Thomas H. Whitt; Lybrease F. Woodard; and Joe E. Zimmerman.

Allums, TD71

Anderson, QS30

Anglin, ED43

Bechtel, ED15

Bellingrath, retired

Berry, ED17

Calfee, TD12

Carruth, ED31

Cramblit, retired

Crumbley, ED14

Cummings, FD33

Edge, ED11

*See **Awards** on page 8*

Annual Honor Day Awards

Elsner, SD50

Fogle, TD11

E. Graham, AD42

J. Graham, TD20

Hightower, CD10

Hill, SD21

Hoffman, SD43

Hood, FD03

NASA Public Service Medal

Mark W. Adrian,Lockheed-Martin
Arthur W. Ambrush, TRW
Gerald K. Austin, Smithsonian Astrophysical Observatory
Mark Bautz, Massachusetts Institute of Technology
Paul J. Bay, Boeing
William R. Benshoof, Boeing
Frank Bernas, Composite Optics, Inc.
Albert C. Brinkman, Space Research Organization Netherlands
Roger J. Brissenden, Smithsonian Astrophysical Observatory
Robert V. Burke, TRW
Robert A. Cameron, Smithsonian Astrophysical Observatory
Claude R. Canizaris, Massachusetts Institute of Technology
Benjamin Chu, Computer Sciences Corporation
Lester M. Cohen, Smithsonian Astrophysical Observatory
Greg S. Davidson, TRW
William S. Davis, Computer Sciences Corporation
Janet Deponte, Smithsonian Astrophysical Observatory
Richard A. Deters, Ball Aerospace
Ricky Dickens, Microcraft
Lorraine Fesq, Massachusetts Institute of Technology
Gene Galton, Massachusetts Institute of Technology
Gordon P. Garmire, Pennsylvania State University
Keith A. Havey, Eastman Kodak Company
Ralph Iwens, TRW
Robbie James, B. F. Goodrich Aerospace
Ken Javor, Sverdrup Technology
G. T. Johnston, Optical Coating Laboratory, Inc.
Steven J. Loer, TRW
Matthew B. Magida, Raytheon
Nancy L. Mayer, TRW
William F. Mayer, Massachusetts Institute of Technology
Phillip J. McKinnon, Smithsonian Astrophysical Observatory
Danny L. Michaels, Ball Aerospace
William S. Morelli, TRW
Reinhold Muller-Mellin, University of Kiel
Michael W. Murray, K&M Computers
Marilyn E. Newhouse, Computer Sciences Corporation
Bobby G. Noblitt, TRW
Richard Patrick, TRW
Joseph G. Payne, TRW
William A. Podgorski,Smithsonian Astrophysical Observatory
Paul B. Reid, Raytheon
Robert D. Renken, Ball Aerospace
Buzz Rudow, Morgan Research Corporation
Lorraine E. Ryan, TRW
Richard Sheller, Sverdrup Technology, Inc.
Ralph Schilling, TRW
Daniel A. Schwartz, Smithsonian Astrophysical Observatory
James S. Smith, Hernandez Engineering, Inc.
John Spina, Eastman Kodak Company
Joann Spolidoro, TRW
Joseph E. Swider Jr., Smithsonian Astrophysical Observatory
Scott C. Texter, TRW
Neil Tice, Lockheed-Martin
Ann M. Weichbrod, TRW
Edgar G. Wheeler, TRW
David E. White, Computer Sciences Corporation
Robert T. Woods, TRW
Jeffrey A. Wynn, Eastman Kodak Company
Joseph A. Zboril, TRW

*See **Awards** on page 9*

Annual Honor Day Awards

Hunt, ED26

Irby, retired

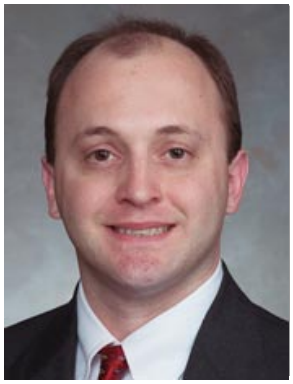
Ise, TD51

Jackson, ED11

Jernigan, FD21

Lightsey, SD71

Luna, ED11



Martin, TD53

NASA Group Achievement Award

Business Management and Program Support Team: Carl M. (Mike) Smith
Chandra External Independent Readiness Review Team: Jeremiah J. Madden, Chrmn, WA, DC
Chandra Independent Assessment Team: John R. Casani, JPL
Chandra Integration, Test, Launch Operations, and Transportation Team: H. LeannThomas/ED13
Chandra Propulsion Subsystems Team: Joe B. Davis/ED23
Chandra X-ray Center Development and Operation Team: David J. Schultz/SD42/P&W
Communications, Command and Data Management Software and Avionics and Software Validation Testbed Team: Luster P. Ingram/ED13)
Contract Administration Management Information System Redesign Team: Seldon Lee Harp, RS21
Electrical Power System, Electrical Networks, and EEE Parts Development and Operations Team: Kurt E. McCall/ED11
Environmental Analysis Team Supporting Center Operations Team: Salvadore V. Caruso, ED36
Fastrac Engine Strength Assessment Team: Karen L. Spanyer, ED22
Ground Control System Development and Operation Team: Lisa Watson, FD43
Inertial Upper Stage Team: Wilda B. Davis/TD02
ISS Enhanced HOSC System Design and Development Team: Darrell G. Bailey, FD41
Manufacturing Team: David L. McGaha/ED37
Materials and Contamination Control Team: Rhonda K. Lash. ED31
Media Relations and Public Outreach Team: David B. Drachlis, CD70
***MSFC Restructure Move Leadership Team: AD01:** James Wyckoff, AD01
Pointing Control, Aspect Determination, and Safemode Systems Development and Operation Team: John R. Calhoun, ED12
Safety and Mission Assurance Team: Alan L. Clark, QS30
Science Instrument Development and Operation Team: Melinda K. Self, ED04
Science Instrument Module Development and SI Integration Team: James C. Pierce, QS30
Science Team: Brian D. Ramsey, SD50
Space Station Program Critical Hardware Move Team, FD23: Bobby J. Thompson, FD23
Structures and Mechanisms Development and Operation Team: Phillip M. Harrison, ED21
Systems Engineering and Flight Dynamics Team: Dexter L. Sullivan, SD20
Systems Management Office Process Development Team, VS01: Neil E. Rainwater II, VS01
Telescope Development, Integration, and VerificationTeam: Danny D. Johnston, ED41
Thermal Control System Development and Operation Team: Larry D. Turner, ED25
X-33 INU/GPS Evaluation Team, ED19: Daniel W. Mitchell, ED19
X-33 LH2 Coverplate Flight qualification Test Team, TD60: Scott A. Schutzenhofer, TD52
XRS2200 Linear Aerospike Engine Team, TD13: Stephen C. Nunez, Stennis Space Center

Awards External to NASA

Huntsville Area Committee on Employment of People with Disabilities
Clerical Employee of the Year — Patricia Caraway/CD10
Space Technology Hall of Fame
Light-Emitting Diode Usage for Medical Technologies — Helen Stinson, CD30

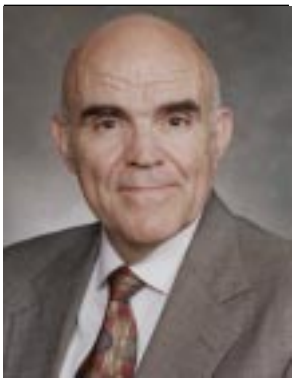
RNASA Stellar Awards
Senior Category — Martin C. Weisskopf, SD50

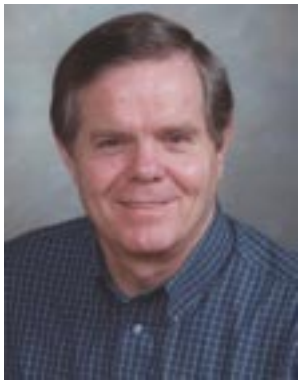
Engineers' Council Awards
Engineer of the Year
— Michael E. Polites, ED10
Outstanding Engineer Merit Award
— Russell M. Mattox, ED13
Distinguished Engineering Achievement Award
— Carlton L. Foster, ED24
— Raymond G. Clinton Jr., ED34
Turning Goals into Reality Awards
Fastrac Team — Michael Ise, TD51
Agency Financial and Resources Management Awards Program
NASA Bond Accounts Streamlining Team – W. Art Lacey, RS20
DCAA Services Consolidated Operations Team
Seldon L. Harp, RS20
Antonia R. Martin, RS20

NASA Certificate of Appreciation

Virginia A. Adams, TD15
James W. Bailey, PS01
Julie Bassler, SD81
Don Bishop, SD02
Donald M. Bryan, ED25
Byron Butler, PS01
Sandy Coleman, SD01
Robyn L. Carrasquillo, FD21
Murray W. Castleman, FD11
John W. Cole, TD15

Annual Honor Day Awards


Nowlin, QS30


Rankin, retired


Schneider, FD41


Stephenson, ED02


Sweigart, PS20


Talley, retired


Taylor, retired


Vaughn, ED31


Wallace, ED15


Whitt, ED11


Woodard, FD32


Zimmerman, ED12

Keith G. Cornett, FD40
Dan J. Coughlin, TD54
Leslie A. Curtis, TD15
Tom Dollman, SD40
Mary J. DeMurray, Hernandez Engineering, Inc.
Steven P. Durham, CD40
Raymond T. Echols, FD34
Jeffrey L. Finckenor, ED23
Tom Fleming, SD01
John C. Forbes, TD62
James M. Holt, ED25
James T. Hopper, TD02
Dale L. Johnson, ED44
Sheryl L. Kittredge, ED26
John K. Laszar, TD62
Geoffrey D. Lochmaier, FD34
Willie J. Love, OS01
Kenneth L. Mitchell, FD22
Boris A. Pagan, TD55
Jonathan Q. Pettus, AD33
Charles W. Pierce, TD52
Christopher G. Popp, TD52
Frank A. Prince, VS20
Richard N. Rodgers Jr., AD32
Jeffrey D. Sexton, TD14
Eric J. Shaw, VS20
Joan A. Singer, MP31
David V. Smitherman, FD02
Mark S. Whorton, TD55
Dan Woodard, SD10

Marshall Director's Commendation Certificate

Paul R. Allison, AD01
Linda B. Amesbury, SD80
Gwen Artis, Morgan/LMC
Richard H. Beckham, ED14
Jeri M. Briscoe, ED12
Barry Bryant, UMS
Gregory L. Christopher, TRW
James P. Clark Jr., ED13
Jeppy L. Clayton, ED25
Galen Davenport, UMS
Thomas J. Dickerson, TD31
Martin Elvis, Smithsonian Astrophysical Observatory
Giuseppina Fabbiano, Smithsonian Astrophysical Observatory
Larry Felton, CSC
Jim Flickinger, Morgan
Sheila H. Fogle, AD33
William Forman, Smithsonian Astrophysical Observatory
Claudia Fowlkes, Morgan
Larry S. Gagliano, CD30
Wanda L. Gilland, RS22
John O. Glenn, FD11
Fred Gullatt, UMS
Elaine W. Hamner, PS30
Donna M. Hardage, ED03
Patrick D. Hart, UMS
Jeffrey Holmes, Smithsonian Astrophysical Observatory
John H. Honeycutt Jr., TD52
Gloria A. Hullett-Smith, FD42
Tom Hushka, CSC
Archie Jackson, Morgan
Dave Johnson, CSC
Alvin N. Jones II, SD43
Patricia A. Layky, ED12
Marvin LeBlanc, Smithsonian Astrophysical Observatory
Deborah K. Ledbetter, ED38
James E. Lee, TD14
Scott Lemons, CSC
Jeffrey L. Lindner, ED27
Edward J. Lippincott, FD41
Ed Luers, Jet Propulsion Laboratory
Anthony T. Lyons, SD30
Neal Mahone, UMS
June B. Malone, CD70
James J. Martin, TD40
William H. Nabors, VS01
Nance-Jo Ogozalek, ED33
Timothy A. Olive, TD53
Benjamin G. Penn, SD47
Jerome K. Pitt, ED26
Linda P. Poe, TD02
Marc L. Pusey, SD48

*See **Awards** on page 11*

Charles D. Ray, FD21
Euell C. Richardson, ED14
Frederick Seward, Smithsonian Astrophysical Observatory
Christena C. Shepherd, QS10
Jeffrey Shirer, Smithsonian Astrophysical Observatory
Daniel Shropshire, Smithsonian Astrophysical Observatory
Videra Sims, FD40
Carl M. Smith, XP10
Charles Smith, Smithsonian Astrophysical Observatory
Dexter L. Sullivan, ED42
Danny Tollison, CSC
Frank Vanlandingham, CSC
Cynthia A. Vemmer, FD21
Sandra G. Weber, SD80
Terry J. Whaley, RS30
Cora P. White, UMS
Kim E. Whitson, PS20
Belinda Wilkes, Smithsonian Astrophysical Observatory
Warren K. Woods, QS10
Mary E. Wright, SD43
Thomas F. Zoladz, TD63

Marshall Certificate of Appreciation

Russell S. Abrams, ED12
Judy L. C. Balance, TD15
Jimmy W. Black, TD02
Deborah S. Bowerman, AD32
Phillip Bryant, ASRI
Samuel D. Clark, ED33
Anita E. Cooper, ED12
Kevin E. Depew, FD21
Alan Duvall, Madison Research Company
Darlene M. Garner, MP71
Bertha Gildon, ED33
Johnny P. Griffin, ED14
Johnny L. Heflin, TD72
Debra L. Hendon, AD21
Kathryn E. Horton, ED23
Ivana Hrbud, TD40
Edward Ingraham, Office of Naval Research
Jeffrey A. Jackson, PS30
Gwenevere L. Jasper, ED44
Frankie R. Jernigan, FD36
Robert H. Kirchmyer, TD30
Catherine C. Lapenta, FD41
Carolyn E. McMillan, CD30
Karen C. McTaggart, ED03
Teresa Y. Miller, SD48
Jody L. Minor, ED03
John A. Mulqueen, TD54
Mark S. Paley, USRA
Ann W. Pigg, VS01
Mike Polemeni, ODIN
Patrick W. Rasco, PS10
Jeffery L. Ratley, ED12
David W. Reynolds, FD36
Robert C. Richmond, SD48
Steven P. Simpson, TD53
Robert M. Suggs, ED44
Billie K. Swinford, OS01
Frances B. Thompson, TD63

Marshall Group Achievement Award

Center Resources Planning Team, RS01 — Rosalie Allen/TD03
Electromagnetic Interference Test Team, ED44 — Jose Sanchez/ED44
Engineering Directorate Technology Coordination Team, ED03 — B. Cook
Environmental, Structural, and Dynamics Test Team, FD20 — Kathy Kappus/ED27
External Tank Composite Nose Team, ED34 — C. Clinton/ED34
Integrated Space Transportation Plan, TD01 — Daniel C. Dumbacher (Dan)/ED20
ISO 9000 Organization Instruction Documentation Team — Amanda Wilson/AD33
MSFC Core Capability Team, SD10 —Sandra Coleman/SD01
MSFC Property Management Process Improvement Team, AD40 — Patricia Fundum/AD41
MSFC Y2K Initiative Team, AD01 — Sheila Fogle/AD33
Multi-Element Integrated Test Team, FD32 — Van A. Woodruff/FD36
Space Shuttle Projects Office Y2K Compliance Team, MP71 — Rodney Barnett/MP21
Space Transportation Day Planning Team, TD01 — Tina Palacios-Labair/TD03
Third Convection and Moisture Experiment Team, SD60 — Robbie Hood/SD60/GHCC
Volatile Removal Assembly Flight Experiment Team, FD21 – Robert M. Bagdigian /ED20
X-33 Liquid Hydrogen Failure Team, ED34 — Frank Ledbetter/ED34

1999 Software of the Year Awards

Title: Modular Rocket Engine Control Software (MRECS)
Authors: Tami L. McGhee, ED14; Terry A. Brown, TD14; Amy N. Cardno, SD43; Charles L. Nola, ED15; Richard H. Beckham, ED14; Charles H. Horne, ED14; Michele A. Farr, ED14; Robert L. Stevens*, ED10; Charlie Tarrant, Lockheed Martin Space Operations; Jerry Crook, Lockheed Martin Space Operations

Title: NAFCOM Cost Model
Authors: Joe Hamaker*, VS20; William R. Rutledge, Science Applications International Corporation (SAIC); Keith Smith, SAIC; Spencer Hill, SAIC; Tara Claborn, SAIC; Gary Davis, SAIC; Mary Heck, SAIC; Sharon Winn, SAIC; John Rutledge, SAIC; Julie McAfee, SAIC

Annual Honor Day Awards

See Marshall Honors Wall in lobby of Bldg. 4200

Countdown to Safety Bowl

Marshall's Safety Bowl begins Aug. 30 and culminates with the championship on Safety Day, Oct. 18. Teams from each directorate will compete. For more information, call Irene Taylor at 544-2051.

Sample questions:

1. What is a lost time injury?
2. AIDS and Hepatitis B are two diseases that are spread through:
   a) Breathing air in the vicinity of an infected person
   b) Contact with blood or other body fluids
   c) Using a public pay phone
   d) Letting an infected person service your automobile
3. What is the biggest danger in a fire?
   a) Smoke and toxic gases
   b) Flames
   c) Water damage from fire hoses
   d) Tripping on a rug
4. What does a red danger barricade tape mean?
5. Approximately 17,000 motor vehicle fatalities per year are attributed to one factor. What is it?

*See **Answers** on page 15*

Astronauts present Silver Snoopy Awards at Marshall

STS-101 crew members visited Marshall June 15. Scott Horowitz, pilot, and mission specialists Mary Ellen Weber and Jeff Williams, presented Silver Snoopy Awards to Marshall employees. The award is for professionalism, dedication and outstanding support of the space program. They also briefed highlights from their mission to repair and service the Space Station.

Photo by Emmett Given, NASA/Marshall Space Flight Center

Astronauts Horowitz, left; Weber, center; and Williams take questions from the audience at Morris Auditorium.

Photo by Emmett Given, NASA/Marshall Space Flight Center

Horowitz, right, presents an award to Julia Lee.

Photo by Terry Leibold, NASA/Marshall Space Flight Center

Williams, center, presents Silver Snoopy Awards to, from left, Jerry Cook, Mary Harris, Thomas Zoladz and John Butas.

Photo by Terry Leibold, NASA/Marshall Space Flight Center

Williams, center, presents awards to, from left, Jack Stokes, George Molloy, Charles Mueller and James Knox.

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Snoopies

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Photo by Emmett Given, NASA/Marshall Space Flight Center

Horowitz, second from right, presents Silver Snoopy Awrds to, from left, Sandra Dickerson, Steve Roy and Larry Lechner.

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Weber, center, presents Silver Snoopy Awards to Dr. Jan R. Rogers, left, and Leila S. Reed.

Photo by Doug Stoffer, NASA/Marshall Space Flight Center

Weber, center, presents Silver Snoopy Awards to Michael V. Fowler and Mike R. Sosebee.

Upcoming Events

RLV Expo — The NASA Reusable Launch Vehicle (RLV) Technology Exposition is Thursday at Dryden Flight Research Center at Edwards, Calif Topics to be addressed include: NASA's Vision and Goals for RLVs, by Robert Sackheim, Marshall's assistant director for Space Propulsion Systems; Future Generations of RLVs, by Danny Davis, deputy manager for the Second Generation RLV Program at Marshall; X-34 and Future-X Pathfinder Program, by John London, manager of the NASA Future-X Pathfinder Program at Marshall; X-37 Project Overview, by Susan Turner, manager of that project at Marshall; and X-Vehicle Flight Testing, by Larry Crawford, Director of Aerospace Projects at Dryden.

Super Guppy — NASA's Super Guppy aircraft will be on display for Marshall team members from 4-6 p.m. June 26 at the Redstone Field. The aircraft is stationed at Ellington Field in Houston and is used primarily to support the shipment of oversized Space Station hardware. The flight crew will be on-hand to answer any question.

National Geographic Explorer — CNBC will air a National Geographic Explorer episode entitled "Destination Space" at 7 p.m. June 24. Microwave Lightcraft research, partially funded by the Marshall Center's Advanced Space Transportation Program, will be featured. More information is available on the Web at: http://www.nationalgeographic.com/tv/explorer/exp061800.html

15th annual Small Business Awards — The Chamber of Commerce of Huntsville/Madison County is hosting the 15th annual Small Business Awards at 6 p.m. June 29 at the Von Braun Center North Hall. Marshall employees may purchase tickets from Rosa M. Kilpatrick at 544-0042 until Friday for $30. After Friday, the cost is $45 per person.

Joint Propulsion Workshop — The 36th Joint Propulsion Conference & Exhibit will be July 16-19 at the Von Braun Center in Huntsville. NASA-badged employees will be able to attend the conference free under a block registration, but must buy tickets to the awards luncheon and a Monday box lunch. Contractors and other attendees may register online at: http://www.aiaa.org/calendar/joint00reg.html

Annual Retiree Dinner — Marshall's annual retiree dinner will be Aug. 17 at the Von Braun Center.

★ ★ ★
Marshall Stars
★ ★ ★

The NASA College Scholarship Fund has awarded scholarships to two dependents of NASA employees.

Justin S. Montenegro is the son of Marshall employee Justino Montenegro, the group lead for the Control Electronics Group in the Engineering Directorate, and his wife Ellen. Montenegro is a graduate of Catholic High School in Huntsville. He plans to major in engineering at Vanderbilt University in Nashville, Tenn., and pursue a teaching career.

Montenegro

Karen Marie Ruff is the daughter of Marshall retiree Rudolph C. Ruff, who worked in the Microgravity Research Program Office until 1994, and his wife Marilyn, a retired physical therapist. Ruff is a graduate of Virgil I. Grissom High School in Huntsville. She plans to major in biochemistry at Washington University in St. Louis and conduct biochemical research.

Ruff

NASA'S SHARP celebrates 20 years of success

NASA and Modern Technology Systems Inc. in Riverdale, Md., selected 200 high school students to work at 11 participating NASA field installations in the 2000 Summer High School Apprenticeship Research Program (SHARP).

The Marshall Center is hosting 27 SHARP students.

SHARP is an intensive science and engineering apprenticeship program specifically designed to attract and increase underrepresented students' participation and success rates in mathematics, science and engineering courses, as well as to encourage career paths that help build a pool of underrepresented science and engineering professionals in the workplace.

Celebrating its 20th year, the eight-week summer program is sponsored by NASA's Education Division and participating NASA installations. This year's program began on June 5 and will continue through Aug. 18.

Although the program is primarily for underrepresented groups such as women, African-Americans, Native Alaskans, Native Americans, Hispanics, Pacific Islanders and persons with disabilities, NASA seeks diversity in all student support programs. Consequently, all eligible, talented high school students are encouraged to apply to the program.

Since 1980, approximately 2,914 SHARP Apprentices have participated in the Program and more than 3,300 NASA employees have served as SHARP mentors. Participating students are assigned to work with a NASA mentor in a specific area of science or technology, gaining hands-on research experience and earning a salary.

SHARP incorporates NASA's education goals and objectives for education excellence by involving the educational community in endeavors to inspire America's students, create learning opportunities and enlighten inquisitive minds.

Refined NASA technology may replace dentist's drill

In the near future, a laser device inspired by NASA may replace the dentist's drill. Flip a switch and it also will replace the dentist's razor-sharp scalpel. Best of all, it's virtually painless and requires no anesthesia for most patients.

Lasers exist today that work on hard tissue like teeth to prepare the tooth for filling, and on soft tissue for gum treatment and oral surgery.

But none do both, and buying two laser systems is expensive. That is one reason why only 5 percent of approximately 140,000 U.S. dentists use a laser system.

Now, researchers at Langley Research Center in Hampton, Va., have demonstrated that the two laser wavelengths important to dentists can be produced from a single, easy-to-use system.

"The system is simple because we've already done all the complex physics in the lab," said Langley laser researcher Keith Murray, one of three inventors of the dental laser technology.

The other inventors are Norman Barnes, also of Langley's Laser Systems Branch, and Ralph Hutcheson of Scientific Materials Corp., Bozeman, Mont.

Both wavelengths can be produced using the same hardware, dramatically reducing cost and complexity. Dentists can switch between the two by selecting the amount and rate of energy pumped into the specially designed laser system. The resulting hardware is about one-half the size of two distinct laser systems and does not require the laser system to be "tuned" by the operator like typical present-day systems.

A typical hard tissue laser costs about $38,000, and a soft tissue laser costs around $25,000. The dual wavelength unit made possible by this new technology is expected to cost less than $30,000.

Lantis Laser Inc. of Hewitt, N.J., is working with Langley to refine the technology to explore its potential as a commercial dental laser product. Under the terms of a Space Act Agreement, a Lantis scientist will perform research in a Langley laboratory with help from the technology's inventors.

Glast

Continued from page 1

mystery surrounding gamma-ray bursts. Many questions remain for the team to investigate.

What is the source of explosions emitting most of their energy in gamma rays — the highest energy radiation, even more powerful than X-rays? How are the explosions created? Have these blasts influenced Earth over the course of the planet's history?

"To find out what is causing these explosions, we will use the GLAST Burst Monitor to observe most of the energy released by a burst, while the primary telescope detects the very highest energy gamma rays emitted during the blast," Meegan said.

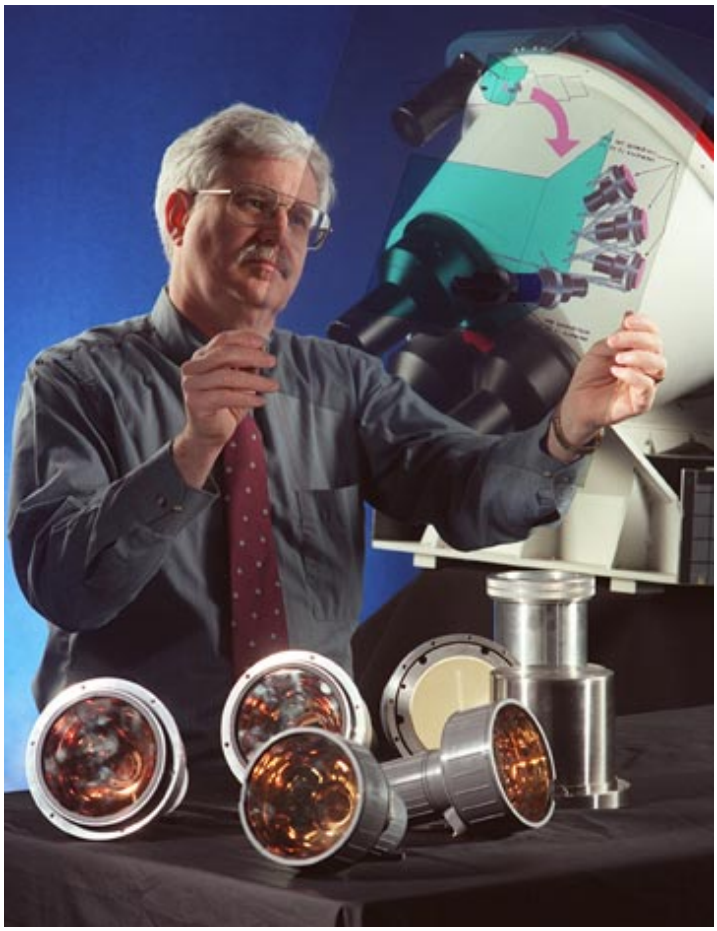

Photo by Emmett Given, NASA/Marshall Space Flight Center

Meegan, principal investigator for the Gamma Ray Large Area Space Telescope Burst Monitor, examines an illustration of the experiment which is expected to launch in 2005.

When a burst occurs, the GLAST Burst Monitor will detect gamma rays from the burst and identify the location of the burst quickly. Then, computers will use this information to automatically point the Large Area Telescope toward the burst.

Working in concert, the GLAST instruments will see energy from a few thousand electron volts to billions of electron volts. By recording over an energy range hundreds of times larger than that detected by BATSE, astronomers may come closer to finding out what causes these explosions.

Are the explosions the birth announcement of a black hole — a collapsed star with gravity so strong that it devours other objects and not even light can escape? Or are they the death of a neutron star — a tiny star made of material so heavy that a sugar cube-sized piece can weigh as much as a billion tons? Scientists don't know.

"We are witnessing something dramatic in the life of an astronomical object," Meegan said. "Our experience with BATSE showed us that if you try to predict what it is without data, you'll be wrong. If bursts have done any thing, they have made scientists humble."

To design the best instrument, Meegan has assembled a team that includes scientists from the Max Planck Institute for Extraterrestrial Physics in Garching, Germany, who are collaborating with NASA through an agreement with the German Space Agency. The Max Planck Institute will build crystal detectors — the monitor's main component for intercepting gamma rays. Scientists from the Marshall Center and the University of Alabama in Huntsville will provide the flight electronics and software for the instrument.

The project also will be an opportunity for the next generation of gamma-ray astronomers to learn how to build a major scientific instrument. The team includes many young astronomers — who began their careers by analyzing BATSE data — from the Marshall Center and the University of Alabama in Huntsville.

Goddard Space Flight Center in Greenbelt, Md., will manage the GLAST mission for NASA's Office of Space Science in Washington, D.C.

The writer, employed by ASRI, supports the Media Relations Department.

Answers

Continued from page 11

1. An injury that causes any loss of time from work beyond the day or shift on which it occurred
2. b) Contact with blood or other body fluids
3. a) Smoke and toxic gases kill more people in fires than do flames
4. A major hazardous situation exists that presents a danger of death or serious injury and must not be crossed
5. Alcohol use

Employee Ads

Miscellaneous

★ Black and Decker lawn edger, electric, 1.5HP, $10; men's 3-speed bike, $65; hardwood boards. 881-8648
★ Paramount yard care blower and vacuum w/ shoulder strap and mulching bag, $40. 461-8369
★ American racing wheels, 6-lug w/tires (lugs included), $450 obo. 461-4957 (8 a.m.-5 p.m.)/ 721-2341/Cathy
★ Loggy Bayou tree stand w/climber, safety harness and accessories, $150 obo. 461-8394
★ John Deere R72 riding mower, 30" cut, rear engine, one-owner, owner's manual, $500. 325-6000
★ Matching desk, bookcase, and file cabinet, $300. 882-6449
★ KitchenAid dishwasher, four cycles, steel tub, automatic water heating, $75. 885-1987
★ Fletcher 2100 mat cutter, squaring arm, production stops, multi-angle attachment, $390. 732-4759
★ Waterbed, 57x87, complete w/rails, frame, full-wave mattress/liner, attach hardware, no headboard, $50. 883-2863
★ Steiff (Knopf im Ohr) Betina doll, 42 cm tall, 1987, $450. 882-0874
★ 1987 Stratos bass boat w/200 Mercury, 12/24 TM, two live-wells, hotfoot, headlights, 19'3", garage kept. 233-5032
★ Vita-Master roller massager, $25. 852-6915
★ Sofa, poly/cotton fabric w/sheen, dark blue background, hunter green/burgundy/gold stripes, coordinating throw pillows, $150. 880-6146
★ Men's left-handed golf clubs and bag, used, $75; medium golf shirt, $10. 882-3983
★ American Racing Classic 5-spoke chrome wheels, 15"x18", w/Dunlop P265-R15 tires & lug nuts, $600. 722-0076
★ Dining table w/two leaves, 4 chairs, matching buffet, $750; boat trailer for 14-16' boat, $100. 828-3169 after 5 p.m.
★ Sofa and love seat, teal green, $350. 883-5168
★ 1978 O'Day sailboat, 23', outboard motor, sink, grill, well maintained, $5,300. 830-8495

Vehicles

★ 1997 Buick Riviera, 21,700 miles, teal green, supercharged, power sun roof, etc., $17,495. 353-0959
★ 1993 Mercury Tracer, 4-door, automatic, a/c, AM/ FM cassette, $2,000 obo. 772-5955
★ 1977-1/2 Porsche 924, silver, 4-speed, sunroof, 136K miles, many new parts, $2,000 obo. 828-6213
★ 1994 Buick Park Avenue, all power, 91K miles. 961-433-6358
★ 1927 Phaeton T-Model, new battery, fanbelt, exhaust pipe and muffler, $7,900. 764-2492 after 9 p.m.
★ 1995 Honda Civic VX, a/c, alloy wheels, AM/FM cassette, cruise 126.5K miles, one-owner, $6,000 negotiable, 751-0598
★ 1993 Chevrolet Cavalier station wagon, 110K miles, red, a/c, power locks/brakes/steering, $2,700. 464-7810/859-1547
★ 1996 Chevy extended cab pickup, 5-speed, 51K miles, $13,900. 852-5394
★ 1999 BMW 328i, silver, 5-speed. sport package, leather, sunroof, CD, power equipped, factory warranty, $33,500. 859-3686
★ 1975 Corvette, mechanical condition great, needs paint & minor interior work, $4,800 obo. 232-0246

Free

★ Pine trees suitable for pole building, trimmed and cut to lengths you want. 881-6040
★ Kittens, 8 weeks old. 885-2104/Steve
★ Guinea pigs, 2 females, w/cage and water bottle, good w/children. 533-5942
★ Kittens, born 4/20/00, 3 male-Siamese, black striped, 1 female-black, litterbox trained. 379-4412

Found

★ Silver beaded necklace found on floor, Bldg. 4200, 1st floor. Call 544-3930 to identify

Lost

★ Gold earring in the vicinity of Bldg. 4200. Call 544-4541 if found
★ Nintendo Color Gameboy at the Picnic Grounds on 6/19 with Pokeman Yellow Game inside. Call 876-0552 if found.

Center Announcements

☞ ***Discount Tickets —*** The NASA Exchange has discount tickets for "Joseph and the Amazing Technicolor Dream Coat" being presented by the Huntsville Community Chorus Association. Showtimes are at 2 p.m. for Saturday and Sunday matinee and 7:30 p.m. July 27-30 and Aug. 3-5 at the Von Braun Center Playhouse. NASA employees, retirees and contractors can receive a 10 percent discount on the price of their tickets by showing their NASA badge at the chorus office at 3312 Long Ave. in Huntsville (behind "Sonic" on Bob Wallace). The office phone number is 256-533-6606. Office hours are Monday through Friday from 10 a.m.- 3:30 p.m. Discount ticket prices for "Joseph" are $13.50 for adults and $9 for students and seniors. "Joseph" is based on the Biblical story of Jacob's favorite son, Joseph, his coat of many colors and his amazing adventures in Egypt in the court of the Pharaoh.

☞ ***Barbershop Closed —*** S&H Barbershop in Bldg. 4203 will be closed July 3 and 4 for the holiday.

☞ ***NARFE Meets —*** The National Association of Retired Federal Employees (NARFE) Chapter 736 will meet at 11 a.m. June 28 at Piccadilly's in Decatur. All retired federal employees are welcome and encouraged to attend. For more information, call Marty Eddy at 773-4826.

☞ ***MESA Meets —*** The Marshall Engineers and Scientists Association will meet at 11:30 a.m. Thursday in Bldg. 4471, room C-105. Refreshments will be served.

☞ ***Blue Cross/Blue Shield —*** The Blue Cross/Blue Shield representative will be at the Center from 9-11 a.m. Thursday in Bldg. 4200, room 329, to assist employees with questions and claims.

☞ ***Shuttle Buddies —*** The Shuttle Buddies will meet for breakfast at 9 a.m. June 26 at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757 or Gail Wynn at 852-8189.

☞ ***Six Flags over Georgia Discount Tickets —*** Tickets — at $19.50 each — are available at the NASA Exchange Space Shop. The tickets are good for the entire 2000 season. For more information, call Candy Bailey at 544-2185.

☞ ***Toastmasters —*** Redstone Toastmasters meets weekly at 6 p.m. on Tuesday at Piccadilly Cafeteria in Madison Square Mall. For more information, call Sylvia Battle at 890-0547. The NASA Lunar Nooners Toastmasters Club meets Tuesday at 11:30 a.m. in Bldg. 4610 cafeteria.

Job Opportunities

SES Vacancy: MSFC-ES-08-00, Chief Operating Officer, National Space Science and Technology Center, Science Directorate. Closes July 15.
CPP-00-83-KP: Communications Assistant, GS-301-7, Customer and Employee Relations Directorate, Internal Relations and Communications Department. Closes June 30.

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